

## **ENGINEERING SERVICES SECTION**

### **2002 Strategic Plan Summary**

#### **MISSION**

The Engineering Services Section provides leadership, management, professional engineering expertise and services to preserve and improve the King County road system in an efficient and environmentally responsible manner. This is accomplished through the Capital Improvement Program to provide safe, reliable roads, bridges and pedestrian facilities.

#### **VISION**

Engineering Services foresees an environment of increased population, more congested traffic, increased regionalism, and more complex projects. This will be complicated by more limited resources, increased public /political scrutiny, more complex environmental regulations, and increasing demand for accountability. These challenges will be met with increased innovation, efficiency, and flexibility, a greater emphasis on communication and collaboration, creative use of emerging technologies, and a more highly trained and professional workforce.

#### **OPERATING VALUES**

Engineering Services is an outstanding workplace where high quality products and services are delivered to our customers by a cooperative, collaborative and confident team. We value professionalism, responsiveness, efficiency, integrity, innovation, and accountability in an environment characterized by mutual respect and trust, openness, communications, and pride in serving the citizens of King County.

## **MAJOR CHALLENGE AREAS**

### **CHALLENGE #1 – TRAFFIC RELIEF**

**The County roadway network is failing to transport people, goods, and services efficiently and effectively. Record growth in the Puget Sound intensifies this problem. Projected growth in the next decade will add over one million vehicles to the traffic load. Traffic congestion jeopardizes public safety, causes lost time and costs with people waiting in traffic, and increases public frustration.**

### **GOALS PERTAINING TO TRAFFIC RELIEF:**

- *To increase the safety of the county road network.*
- *To increase the level of service at intersections.*
- *To reduce commute trip times.*
- *To increase the capacity of the road network.*
- *To increase the efficiency in planning of roadway network improvements.*

## **CHALLENGE #2 - DETERIORATING INFRASTRUCTURE**

**The County has an aging infrastructure of roads, bridges, and related structures that is deteriorating faster than it can be replaced. Normal decline is being magnified by record growth and increased traffic congestion that is overtaxing the existing system, creating hazardous conditions that jeopardize public safety, add new costs, and increase public frustration.**

### **GOALS PERTAINING TO INFRASTRUCTURE DECLINE:**

- *To reduce the number of substandard roads, bridges, culverts, and other vital roadway structures.*
- *To reduce the liabilities, deficiencies, and hazards associated with retaining walls and seawalls and other significant roadway structures.*
- *To increase the longevity, integrity, and safety of the county road system.*
- *To increase the number of projects completed within the six-year CIP schedule.*
- *To reduce the number of load limited bridges.*
- *To increase the level and amount of interactive and integrated planning, engineering design, surveying, construction inspection and materials testing done with other jurisdictions.*

### **CHALLENGE #3 - ENVIRONMENTAL REQUIREMENTS**

**Increasingly complex and newly emerging environmental regulations represent challenges that complicate the delivery of projects that are in advanced stages of design. These changes may add time to projects, require remedial design expense, add costs to construction methods and require higher levels of coordination among jurisdictions, agencies, the public and the project proponent. This complexity often challenges the permit requester, the permitting agency, the public, and other stakeholders and may lead to unpredictable, inconsistent and costly results.**

#### **GOALS RELATED TO THE ENVIRONMENT:**

- *To increase consistency and quality in environmental analysis, review, and documentation and to decrease inconsistencies among regulatory agencies during project review.*
- *To increase the number of Road Services Division construction projects having positive environmental impacts.*
- *To decrease the time it takes to obtain federal, state, and local permits and approvals required for assigned projects.*
- *To increase the use of innovative approaches to improve the environmental performance and sustainability of projects during construction and operation.*
- *To increase the level and quality of communication, including data access between the Road Services Division Units, interdepartmental peers, the public, the tribes and regulatory agencies.*
- *To maintain a sensitivity and commitment to ensuring environmental compliance.*
- *To increase the section-wide knowledge of new and pending regulations.*

## **CHALLENGE #4 - PUBLIC IMAGE AND UNDERSTANDING**

**Citizens expect more of County government while consistently voting to reduce funding available for public infrastructure projects. Further, citizens often neither understand the limits of current services nor the many benefits they already provide. This has promoted unrealistic expectations, escalating service demands, and growing numbers of complaints.**

### **GOALS TO PROMOTE PUBLIC UNDERSTANDING:**

- *To increase the quality, frequency and positive impact of communication and coordination with the public.*
- *To reduce the number of complaints received from the public due to insufficient information.*
- *To increase public understanding of preservation and improvement processes.*
- *To increase contacts with the departmental public relations and public outreach offices.*
- *To decrease the amount of negative press and public commentary resulting from misinformation non- or poor communications.*

## **CHALLENGE #5 - GROWING WORKLOAD DEMAND**

**Increasing workloads, decreasing budgets, and a shrinking staff has taxed the Section's ability to work efficiently and consistently offer innovative technical solutions. Insufficient funding to meet growing demand has led to decreased service levels, poor morale, reduced efficiency, growing project backlog, and an increasing dissatisfaction with public service.**

### **GOALS RELATED TO WORKLOAD AND DEMAND:**

- *To increase productivity and efficiency in work processes.*
- *To increase the use of new techniques and methodologies for pavement resurfacing.*
- *To increase the use of emerging technologies to improve productivity and work processes.*
- *To increase the quality of materials used on roadway capital improvement projects.*
- *To increase the number of projects brought in on time and within budget.*
- *To increase the level of cooperation and collaboration throughout the Section and with the, CIP and Planning, Traffic Engineering and Road Maintenance Sections.*

## **CHALLENGE #6 - INSUFFICIENT FUNDING**

**Increasingly complex projects cost more to build while funding sources are shrinking. Innovation and the use of emerging technologies have large up-front costs, often obscuring their positive impact on productivity. Reliance on traditional funding sources will reduce the number of projects able to be completed.**

### **GOALS RELATED TO FUNDING:**

- *Increase the number of grants and partnerships to increase funding.*
- *Increase the revenue generated by providing services to other jurisdictions and agencies.*
- *Increase participation in the Road Improvement District program.*
- *Increase the amount of gas tax money the county collects from state agencies.*

## **CHALLENGE #7 - PROJECT MANAGEMENT**

**Project management at all stages of the CIP is hampered by the lack of accurate planning, budget, and expenditure data. External factors cause delays in project schedules increasing costs and reducing the services to the public, while internal systems are not integrated to properly provide the breadth and scope of data required for complex analysis.**

### **GOALS PERTAINING TO PROJECT MANAGEMENT:**

- *To increase the number of projects completed annually that are on schedule and within budget.*
- *To increase the use of the project management system.*
- *To increase the use of enterprise level project management software to improve productivity and management oversight.*
- *To increase the use of resource loading of projects, improving productivity and accountability.*
- *To increase project tracking by creating an application that links payroll input, project metadata, and surveying data storage & archiving system.*



## **CHALLENGE #8 – LIMITED STAFFING AND PERSONNEL**

**Soaring personnel costs and shrinking budgets have reduced the workforce, while demands for support, service, new infrastructure projects, and internal accountability have increased. Time- consuming bureaucratic processes continue to reduce the capability of the Section to remain properly staffed and project completion has suffered. Professional staff increases without corresponding increases in administrative support services staffing have increased the pressure of both clerical and professional staff, increased project backlog, and created new costs associated with time delays, learning curves, and insufficient levels of expertise as people leave.**

### **GOALS RELATED TO STAFFING AND PERSONNEL:**

- *To increase the resource loading of projects based upon a new staffing plan that more accurately schedules staff resources.*
- *To maintain a level of staffing appropriate to the workload.*
- *To increase participation of clerical staff in process improvement initiatives*
- *To reduce the disparity between administrative support and professional- technical staff.*
- *To increase the general efficiency of administrative support services throughout the Section.*
- *To reduce the number of projects negatively impacted by the lack of appropriate administrative support personnel.*

## **CHALLENGE #9 – INSUFFICIENT COMMUNICATION AND COORDINATION WITH COUNTY AGENCIES**

**Many County agencies impact project delivery schedules and costs yet have no responsibility for or accountability in the area of road design, development, or maintenance. Communications with these agencies is often ineffective, inefficient, or virtually non-existent, causing significant project delays, adding significant costs, and encouraging conflict among agencies that should be allies.**

### **GOALS RELATED TO INSUFFICIENT COMMUNICATION & COORDINATION:**

- *To increase the overall frequency and quality of communication between Engineering Services and those county agencies with which it interacts.*
- *To reduce the number of conflicts habitually and historically existing among/ between County agencies.*
- *To reduce the number of project delays and avoidable costs associated with or caused by mis- or non- communication.*
- *To increase the number of County and other government and business organizations that actively cooperate with the Engineering Services Section and positively support projects.*

# **Engineering Services**

## **Major Strategies**

The following are the principal strategies that will be developed in FY 2002 and over the next few years to meet the most critical challenges facing the County and the section. Some will require collaboration with other County and municipal agencies, while others relate to new technical innovations or applications, more effective internal procedures, better use of existing talent, and creative operating systems that will lead to measurable productivity gains.

**As a result of the planning process, it has become clear that:**

<b>Agency Performance Depends On:</b>
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- ❑ Organization Design
- ❑ Technical Capability (skills)
- ❑ Collaboration
- ❑ Technical Capacity (equipment & FTEs)
- ❑ Detailed Planning
- ❑ Clarity & Direction
- ❑ Culture & Leadership

The following are the most essential strategies that have been identified during the strategic planning process. However, more actions and strategies will be identified as the months unfold, then incorporated into this plan.

### **Strategy #1**

**Aggressively participate with Planning in producing the road development plan. Position the County to be a key player in the selection of the right projects to build and the construction of those projects.**

## **Strategy #2**

**Provide a much stronger review of infrastructure problems and escalating deficiencies to the County Council and Executive. With the increasing infrastructure decline there must be a better depiction of safety concerns, as well as the statistical, technical, financial, and political matters.**

## **Strategy #3**

**Accelerate the Section's organization improvement review, making it an inclusive process to examine how more productivity, efficiency, and collaboration can be gained. Establish an Organization Improvement Council (OIC) to analyze internal issues identified during the strategic planning process and to establish 'action teams' to address each issue. Formalize the OIC within the organization, soliciting participation from all levels within the units.**

## **Strategy #4**

**Develop the framework for a clear, comprehensive training and employee development program. Based on an assessment of skills vs. required skill sets, this 'curriculum' would serve as the foundation for core training and orientation classes, and for continuing education based in the Section.**

## **Strategy #5**

**As a special element of the Section's training and development program, prepare a series of short classes in the most essential areas of information technology. Establish core competencies for all employees, grouped by job type, and prepare a general curriculum for training employees to be highly efficient, accurate, and productive through the application of technology.**

## **Strategy #6**

**Continue the strategic planning process, investing more time in planning among work units and with Traffic Engineering to identify and solve mutual problems. Continue to refine both strategic and operations planning and**

**improve existing plans. Convene the strategic planning team quarterly to review plans, discuss format/ content amendments, and refine schedules.**

### **Strategy #7**

**Strengthen policies that support existing project management framework and protocols for all units involved with various design or support aspects of each project. Review current project planning and coordination activities and explore identified issues that inhibit project planning and implementation or management effectiveness. Work as a management team to determine new efficiencies to make the current system stronger and more effective.**

### **Strategy #8**

**Begin an outreach program with other County agencies and communities to identify mutual issues, goals, and strategies, and to seek opportunities for collaboration. Work cooperatively with area universities and use students for various special projects, research and data analysis. Supplement Section FTEs with students needing research or experience credits.**

### **Strategy #9**

**Take the lead in productivity measurement, accountability, and variance reporting. Through the strategic planning process, establish clear goals, annual objectives, and specific actions that will be reviewed and measured annually and reported to the Road Services Division.**

### **Strategy #10**

**Work with department experts to develop a clear and well-conceived plan for communicating with the public and business community. Maintain a balanced public information program that regularly communicates with a variety of other agencies, local business, voluntary associations, and the media. Ensure that every significant project has a planned component for public information, and that it is planned in the proper sequence with the proper information.**

### **Strategy #11**

**Become a lead entity for positive change and innovation, offering sound analysis, clear examples, and sensible solutions that will result in measurable productivity gains. Prepare clear documentation regarding how some antiquated County policies and procedures inhibit productivity, incur unnecessary costs, and delay projects.**

### **Strategy #12**

**Revisit the Section's Network-IT plan and revise as necessary to reflect current and projected hardware and software needs for all staff. Use the existing network plan to base an updated plan targeting 2002-2003 for meeting technical needs of as many employees as funding allows.**

### **Strategy #13**

**Develop a method of project delivery consistent with the new project management system that promotes sensitivity and commitment to ensuring environmental compliance, timely project delivery and efficient use of public funds.**

### **Strategy #14**

**Develop protocols that include an earlier and more rigorous assessment of a project's potential impact to the environment.**

### **Strategy #15**

**Promote reductions in remedial scope changes by providing an effective cost/benefit analysis during the conceptual design phase**

### **Strategy #16**

**Invest in the necessary hardware, software and training to increase our ability to generate and share environmental information critical to the proper evaluation of project impacts.**

### **Strategy #17**

**Increase the number and effectiveness of regulatory agency meetings in order to discuss and define issues, to determine existing processes and approvals, and to resolve any inconsistent application of those processes and approvals.**

### **Strategy #18**

**Increase the number and effectiveness of other stakeholder meetings including, but not limited to, interdepartmental peers, other County agencies, the Tribes and the public in order to share information and resolve issues successfully.**

### **Strategy #19**

**Utilize interdisciplinary expertise to prepare information bulletins, develop protocols, and promote training sessions in order to improve section-wide knowledge of existing, new and pending regulations**